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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,393	09/28/2001	Jin-Meng Ho	TI-32700	6506

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EXAMINER
TODD, GREGORY G

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/966,393	HO ET AL.
	Examiner	**Art Unit**	
	Gregory G Todd	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 September 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-41_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-41_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _01/30/04_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This is a first office action in response to application filed, with the above serial

number, on 28 September 2001 claiming priority to provisional application 60/213,222

filed 28 February 2001, in which claims 1-41 are presented for examination. Claims 1-

41 are therefore pending in the application.

Specification

2.   The disclosure is objected to because of the following informalities: The related

applications require a serial and/or patent number associated with them.

Appropriate correction is required.

Drawings

3.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show

every feature of the invention specified in the claims. Therefore, the medium status

signal flag must be shown or the feature(s) canceled from the claim(s). No new matter

should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claim 3 recites the limitation "the waiting step" in line 2. There is insufficient

antecedent basis for this limitation in the claim.

6.   Claim 8 recites the limitation " the initiating step " in line 1. There is insufficient

antecedent basis for this limitation in the claim.

7.   Claims 33 and 34 recite the limitation " the first destination station " in line 2.

There is insufficient antecedent basis for this limitation in the claim.

8.   Claims 33 and 34 recite the limitation " the second destination " in line 1. There

is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 1-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Fogle

(hereinafter "Fogle", 6,813,260).

As per Claim 1, Fogle teaches a method for initiating a contention-free burst by a hybrid

coordinator (station) of a network using a shared communications medium (at least col.

6, lines 20-30) comprising:

determining a status of the shared communications medium (at least col. 7, lines

30-45; 7-15; determining if medium is busy);

waiting for access to the shared communications medium based on the status of

the shared communications medium (at least col. 7 line 30 - col. 8 line 8; idle or busy);

and

transmitting information after expiration of a specified period of time (at least col.

7, lines 30-67; taking control after PIFS).

As per Claim 2. The method of claim 1, wherein the status of the shared

communications medium is idle, and wherein the waiting step comprises ensuring that

the shared communications medium has been idle for at least a point coordination

function inter-frame space (PIFS) period (at least col. 7, lines 30-45).

As per Claim 3. The method of claim 1, wherein the status of the shared

communications medium is busy due to a transmission, and wherein the waiting step

comprises:

> determining a source of the transmission (at least col. 7 line 46 - col. 8 line 27);

> waiting until the transmission completes (at least col. 7 line 46 - col. 8 line 27);

and

> waiting for a specified period of time (at least col. 8, lines 9-27; not idle, waiting).

As per Claim 4. The method of claim 3, wherein the source of the transmission was

determined to have originated from a same BSS, and wherein the specified period of

time is equal to a short inter-frame space (SIFS) period (at least col. 6, lines 32-42; col.

8, lines 28-59).

As per Claim 5. The method of claim 3, wherein the source of the transmission was

determined to have originated from a same BSS, and wherein the specified period of

time is equal to a point coordination function inter-frame space (PIFS) period (at least

col. 6, lines 32-42; col. 8, lines 28-59).

As per Claim 6. The method of claim 1, wherein the contention-free burst is of limited

duration and the hybrid coordinator has more information to transmit than can be

transmitted in the contention-free burst, the method further comprises: (1) waiting a

second specified time period after the completion of the contention-free burst; (2) generating a backoff time; (3) initiating a backoff procedure; and (4) initiating a new contention-free burst when the backoff procedure completes (at least col. 7 line 63 - col. 8 line 59).

As per Claim 7. The method of claim 6, wherein the second specified time period is a point coordination function inter-frame space (PIFS) period (at least col. 7 line 63 - col. 8 line 59).

As per Claim 8. The method of claim 6, wherein the initiating step comprises:

inserting the backoff time into a backoff timer; decrementing the backoff timer each time an idle slot expires; and completing the backoff procedure when the backoff counter reaches zero (at least col. 7, lines 45-62; waiting the number of interals).

As per Claim 9. The method of claim 6, wherein the method is repeated until the hybrid coordinator transmits all of its information (at least col. 7 line 45 - col. 8 line 27).

As per Claim 10. The method of claim 6, wherein a second hybrid coordinator may take control of the shared medium by initiating a contention-free burst of its own while the hybrid coordinator is attempting to initiate a new contention-free burst (at least col. 7, lines 30-62; col. 6 line 32-52; STA2...STAn).

As per Claim 11. The method of claim 10, wherein the second hybrid coordinator may initiate the contention-free burst after the shared medium has been idle for a PIFS period (at least col. 7, lines 30-62; col. 6 line 32-52; station taking control).

As per Claim 12. The method of claim 6, wherein the backoff time is randomly chosen from a contention window of [0, CWHC) where CWHC=CWHCmin+1, and CWHCmin is a prespecified value (at least col. 9, lines 9-52; eg. >0).

As per Claim 13. The method of claim 12, wherein a collision occurs due to the initiating of the new contention-free burst, and wherein the method comprises an additional step of (5) repeating steps (1)-(4) with the backoff time being randomly chosen from a contention window of [0, 2*CWHC) (at least col. 9 line 15 - col. 10 line 43).

As per Claim 14. The method of claim 13, wherein the contention window is doubled each time the method repeats due to a collision resulting from the initiating of the new contention-free burst (at least col. 9 line 15 - col. 10 line 43; waiting for next period).

As per Claim 15. The method of claim 14, wherein the contention window has a maximum size of [0, CWHCmax+1) where CWHCmax is a prespecified value (at least col. 9 line 15 - col. 10 line 43).

As per Claim 16. The method of claim 15, wherein a default value of CWHCmax is equal to CWHCmin and CWHCmin is defaulted to three time slots (at least col. 8 line 54 - col. 9 line 52).

As per Claim 17, Fogle teaches a method for access recovery in a shared medium comprising:

transmitting a frame to a destination to initiate a contention-burst (at least col. 7, lines 30-62);

As per Claim 12. The method of claim 6, wherein the backoff time is randomly chosen from a contention window of [0, CWHC) where CWHC=CWHCmin+1, and CWHCmin is a prespecified value (at least col. 9, lines 9-52; eg. >0).

As per Claim 13. The method of claim 12, wherein a collision occurs due to the initiating of the new contention-free burst, and wherein the method comprises an additional step of (5) repeating steps (1)-(4) with the backoff time being randomly chosen from a contention window of [0, 2*CWHC) (at least col. 9 line 15 - col. 10 line 43).

As per Claim 14. The method of claim 13, wherein the contention window is doubled each time the method repeats due to a collision resulting from the initiating of the new contention-free burst (at least col. 9 line 15 - col. 10 line 43; waiting for next period).

As per Claim 15. The method of claim 14, wherein the contention window has a maximum size of [0, CWHCmax+1) where CWHCmax is a prespecified value (at least col. 9 line 15 - col. 10 line 43).

As per Claim 16. The method of claim 15, wherein a default value of CWHCmax is equal to CWHCmin and CWHCmin is defaulted to three time slots (at least col. 8 line 54 - col. 9 line 52).

As per Claim 17, Fogle teaches a method for access recovery in a shared medium comprising:

transmitting a frame to a destination to initiate a contention-burst (at least col. 7, lines 30-62);

waiting for an expected response from the destination within a first time period (at least col. 7 line 30 - col. 8 line 8; idle or busy);

if the expected response from the destination does not arrive within the specified time period, then:

sensing a status of the shared medium; waiting a second time period; and regaining control of the shared medium (at least col. 7, lines 30-45; station taking control).

As per Claim 20. The method of claim 17, wherein a wireless station is in control of the shared medium, and wherein the status of the shared medium is idle, and wherein the specified time period is equal to one short inter-frame space (SIFS) period (at least col. 6, lines 32-42; col. 8, lines 28-59; 802.11b).

Claims 18-19 and 21-31 do not add or define any additional limitations over claims 1-16 and therefore are rejected for similar reasons.

As per Claim 32. The method of claim 17, wherein the regaining step comprises transmitting a second frame to a second destination station initiating a new contention free burst (at least col. 7, lines 30-45; col. 6, lines 32-52).

As per Claim 33. The method of claim 32, wherein the second destination is the same as the first destination station (at least col. 7, lines 30-45; col. 6, lines 32-52).

As per Claim 34. The method of claim 32, wherein the second destination is different from the first destination station (at least col. 7, lines 30-45; col. 6, lines 32-52).

As per Claim 35, Fogle teaches a circuit comprising:

a memory (at least col. 6, lines 59-67);

a processor coupled to the memory (at least col. 6, lines 59-67), the processor

containing circuitry to manage communications in a shared medium, the processor

further comprises an error processor to detect and recover from transmissions damaged

by collisions from other transmissions (at least col. 7, lines 46-52; col. 2, lines 1-24);

a transmit/receive unit coupled to the processor (at least col. 7, lines 1-15), the

transmit/receive unit to transmit and receive data frames from the shared medium; and

a medium sensor unit coupled to the processors, the medium sensor to detect a state of

the shared medium (at least col. 7, lines 7-45; transceiver monitoring medium status

and medium sense).

As per Claim 36. The circuit of claim 35, wherein the medium sensor unit is internal to

the transmit/receive unit (at least col. 6 line 53 - col. 7 line 14).

As per Claim 37. The circuit of claim 35, wherein the medium sensor unit asserts a

medium status signal flag depending on the state of the shared medium (at least col. 7,

lines 7-45; transceiver monitoring medium status).

As per Claim 38. The circuit of claim 35, wherein the error processor determines when

the circuit can safely reclaim control of the shared medium (at least col. 8, lines 8-28).

As per Claim 39. The circuit of claim 35, wherein the error processor determines an

occurrence of errors and a nature of the errors based on the status of the shared

medium and contents of transmissions on the shared medium (at least col. 2, lines 1-24;

col. 7, lines 30-61).

As per Claim 40, Fogle teaches a communications system comprising:

a shared medium (at least Fig. 2);

at least two communications stations, coupled to the shared medium, each

communications station comprising (at least Fig. 2):

a memory (at least col. 6, lines 59-67; Fig. 3);

a processor coupled to the memory (at least col. 6, lines 59-67; Fig. 3), the

processor containing circuitry to manage communications in a shared medium, the

processor further comprises an error processor to detect and recover from

transmissions damaged by collisions from other transmissions (at least col. 7, lines 46-

52; col. 2, lines 1-24);

a transmit/receive unit coupled to the processor (at least col. 7, lines 1-15), the

transmit/receive unit to transmit and receive data frames from the shared medium (at

least col. 7, lines 7-45; Fig. 3; transceiver monitoring medium status);

and a medium sensor unit coupled to the processors, the medium sensor to

detect a state of the shared medium (at least col. 7, lines 7-45; Fig. 3; medium sense).

As per Claim 41. The communications system of claim 40, wherein the communications

system further comprises a hybrid coordinator (station) coupled to the shared medium,

the hybrid coordinator further comprising:

a memory (at least col. 6, lines 59-67; Fig. 3);

a processor coupled to the memory, the processor containing circuitry to manage

communications in a shared medium, the processor further comprises an error

processor to detect and recover from transmissions damaged by collisions from other

transmissions (at least Fig. 3; col. 7, lines 46-52; col. 2, lines 1-24) ;

a transmit/receive unit coupled to the processor, the transmit/receive unit to

transmit data frames to, and receive data frames from, the shared medium; and a

medium sensor unit coupled to the processors, the medium sensor to detect a state of

the shared medium (at least col. 7, lines 7-45; transceiver monitoring medium status

and medium sense).

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Trainin et al, Fischer, Sambamurthy et al, Ghuman et al, Guo et

al, and Tafazolli et al are cited for disclosing pertinent information related to the claimed

invention. Applicants are requested to consider the prior art reference for relevant

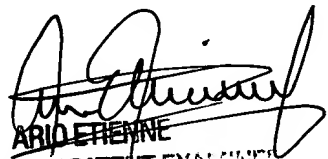teachings when responding to this office action.

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory G Todd whose telephone number is (571)272-4011. The examiner can normally be reached on Monday - Friday 9:00am-6:00pm w/ first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory Todd
Patent Examiner

Technology Center 2100

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